# Problem of the Week
Number Two
September 12, 2016

During a visit to England in 1875, American songwriter Henry Clay Work noted a large, pendulum clock, then known as a longcase clock, in a hotel lobby. The clock was non-functional. When Work asked as to its purpose, he was told the clock had a strange history. The hotel, he was told, was previously owned by two brothers. When one brother died, the previously reliable clock became erratic, and when the second brother died it stopped altogether. Work was moved by the story, and wrote a song about it called, "My Grandfather's Clock."

The song became a huge success, and they have been called grandfather clocks ever since.

The numbers on grandfather clocks are typically given in Roman numerals. Moreover, it is traditional to denote 4 by IIII, as opposed to IV. That is relevant to this week's problem:

Divide the clockface into four regions so that the sum of the numbers in each region is 20.
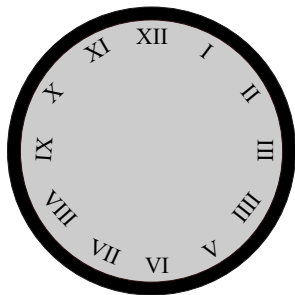
As shown in the following proposed solution, it is permitted to break up the individual Roman numerals, and it is not required that the numbers in each region be adjacent.
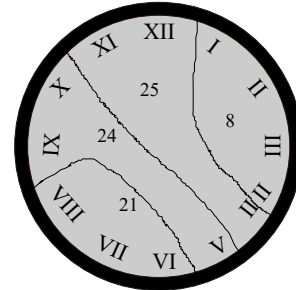
This solution plainly gives the wrong sums. Can you do better?

There is more than one solution to this problem. When you have found one, follow these instructions to the letter:

*Submissions are due to Jason Rosenhouse by 5:00 on **Friday, September 16**. Solutions should be written on the back of an official POTW handout. Place your name, e-mail address, and the section numbers and professors of any math courses you are taking, in the **upper right corner** of the front of the page. One weekly winner will receive a five-dollar gift card from Starbucks. Solutions will be posted at this website, by the Monday after the problem is due:*

http://educ.jmu.edu/~rosenhjd/POTW/Spring15.html